



Community-Based Agriculture Extension Programmes Among Smallholder Women Farmers in Western Kenya: Adoption and Yield Enhancements,

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Abstract

Community-based agriculture extension programmes have been implemented to enhance agricultural productivity among smallholder women farmers in Western Kenya. A systematic search was conducted using electronic databases including PubMed, Web of Science, and Google Scholar. Studies were selected based on predefined inclusion criteria related to community-based agriculture extension programmes targeting smallholder women farmers in Western Kenya. The review identified several studies reporting significant yield enhancements ranging from 15% to 30%, with adoption rates varying between 40% and 60%. Community-based agriculture extension programmes have demonstrated potential for enhancing agricultural productivity among smallholder women farmers in Western Kenya. Further research should investigate the long-term sustainability of these programmes, focusing on factors such as resource allocation, community engagement, and technological adoption. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \theta \} \operatorname{sumiell} (y_i, f\theta(\xi)) + \lambda l \operatorname{Vert}\theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *African geography, community development, extension services, smallholder farming, gender studies, participatory rural appraisal, yield analysis*

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